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## INTELLIGENCE BRIEF

MACHINE TOOLS IN NORTH VIETNAM---  
WHITE ELEPHANT OR BLUEPRINT FOR INDUSTRIALIZATION

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MACHINE TOOLS IN NORTH VIETNAM --  
WHITE ELEPHANT OR BLUEPRINT FOR INDUSTRIALIZATION?

In recent years, North Vietnam has had the distinction of being the least developed country in the world that is producing modern machine tools. The country currently is producing about 600 machine tools annually in a Soviet-built plant in Hanoi. North Vietnam is far from being an economical producer of these industrial goods, however, and the economy is paying a heavy cost for the prestige of producing these "symbols" of economic development and advanced technology. Contrary to claims by North Vietnamese officials that their machine tool industry is up to present world standards, its output actually consists of copies of old Soviet models of the late 1940's, and the industry itself was built to Soviet specifications.

North Vietnam's "road to socialism" has called for substantial investment in heavy industry, including production of machine tools. But neither the North Vietnamese economy nor the very limited export market can absorb the present production, and, as a result, the industry is operating below capacity while pressing demands for equipment more necessary to the country's present economic development are being ignored.

1. Background

The Hanoi Engineering Factory, located in the suburbs of Hanoi, manufactures nearly all of North Vietnam's machine tools, although a few machine tools are produced occasionally at the Duyen Hai Engineering Plant in Haiphong and at the Tran Hung Dao Engineering Plant in Hanoi. Other plants referred to as "machine tool plants" usually produce light industrial goods. Completed and equipped with about 200 modern machines in April 1958 <sup>1/</sup> as a part of a Soviet aid program, the Hanoi Engineering Factory is regarded as the most modern industrial plant in the country. North Vietnamese personnel received technical training in the USSR, and the factory began by manufacturing copies of Soviet machine tools, initially general-purpose drill presses and lathes. The plant, situated along National Route No. 6 between Ha Dong and Hanoi, is much larger than necessary for its current output of machine tools. At present, some of its capacity is used to produce agricultural pumps and automotive parts. <sup>2/</sup> The plant also repairs machinery and has an apprentice training program for technicians and designers. Although there is no evidence of production of weapons,

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the industrial equipment and related facilities of the plant suggest a potential for manufacturing small arms such as rifles, bazookas, and recoilless rifles but not large weapons or armored vehicles.

Foundries in Hanoi have the capacity to produce most of the less sophisticated metals used in machine tools. Approximately 70 percent (by weight) of the requirements for fabricated metal consist of ordinary grey iron castings used for such parts as beds, ways, and housings for which North Vietnam has the resources, technology, and facilities. The remainder of the required metal, which consists of high-grade steels and alloys used for gears, spindles, and other parts in headstock assemblies, must be imported, chiefly from the USSR. It is probable that antifriction bearings and other components and controls also must be imported.

## 2. Production

It is estimated that production of machine tools in North Vietnam is still in an infant stage and that in recent years output actually has declined. Production reached its peak in 1962, when 1,240 units were produced, but declined to 540 units in 1963, and state plans call for production of only 730 units in 1965. <sup>3/</sup> A goal of 1,540 units was set originally for 1965, the close of the First Five Year Plan (1961-65).

Nearly all of the machine tools produced are copies of older Soviet machines, as North Vietnam has developed no capabilities in producing original designs. <sup>4/</sup> Soviet technicians are available as consultants, although they are not permanent members of design staffs. One lathe currently being produced, model 1616 (or T616), is a copy of a Soviet product of the same model number that the USSR began mass-producing in 1949. Model K125, a vertical-drilling machine, is similar to Soviet model 2A125. Both of these machines are still produced in the USSR and China. This year a more advanced toolroom lathe (model T630) has been offered for export.

Although only a small percentage of production has been exported, several machine tools have been sent to Cambodia, Indonesia, and India. The only markets open to North Vietnam are the less developed countries, which are able to utilize the less complicated machine tools typical of North Vietnam's production.

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### 3. Prospects

At the present time the demand in North Vietnam for the types of machine tools manufactured at the Hanoi plant is insufficient to absorb all of the plant's production. The insufficient demand and the inability to develop sizable export markets explain in large measure the drop in output of machine tools that has occurred in recent years. 5/

Although North Vietnam has a relatively ambitious industrial development program, its requirements for machine tools are limited. The major types of equipment required by North Vietnam consist of all kinds of modern industrial machinery to support the development of its metallurgical, chemical, and electric power industries, all of which must be imported. At its present stage of development, North Vietnam machine tools are used primarily to equip machine shops for the repair of transportation, agricultural, and other equipment. Its own production of various types of industrial machinery is still too rudimentary to exert much of a demand for machine tools. In addition, few plants in North Vietnam have a sufficiently trained labor force to operate and use modern machines efficiently.

North Vietnam is clearly not an efficient producer of machine tools. It cannot hope to establish the service organizations or efficiency of production to compete in the Far East with Japan or even Communist China. Although the Hanoi plant has introduced modern manufacturing technology to the country, and in this sense performs a valuable training function, there are numerous other kinds of output that could have achieved the same result at less cost and would have been more in line with North Vietnam's immediate economic requirements -- for example, agricultural implements.

The wisdom of comparative advantage, under which North Vietnam would import its limited requirements of machine tools from efficient Bloc producers, has been ignored, and inefficient production of machine tools has been emphasized with little awareness of the demand for such machines or the difficulties of exporting them to world markets.

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